

ABSTRACT OF THE DISCLOSURE

The invention relates to a new method of digital FM demodulator that uses a timing reference and the concept of delta-sigma converter to implement the function of time-to-digital demodulator comprising delay lines, multiplexer, phase lock circuit, quantizer and digital integrator. The modulation frequency segment will pass through delay lines around a loop and compare with original input modulation signal, and the difference is converted into voltage and store in capacitor by way of charge. When quantized voltage has been accumulated, then re-select a reference signal to compare its phase with input signal. This system is a feedback system. This quantized digital signal again pass through a filter to filter out high frequency quantized noise to get the demodulation signal.

The invention combines the function of demodulation and analog-to-digital

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